

Date: Monday, 2/27/2006 4:21:33 PM
 User: Kim Johnston

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : 212/205 HIGH AFT X-TUBE ASSEMBLY
 Job Number : 25993
 Estimate Number : 10257
 P.O. Number : N/A Part Number : D212664201
 This Issue : 2/27/2006 S.O. No. : N/A Drawing Number : D212-664-241 REV B
 Prsht Rev. : NC Project Number : N/A
 First Issue : N/A Type : LANDING GEAR Drawing Revision : B
 Previous Run : 25992 Material : N/A
 Due Date : 3/25/2006 Qty: 1 Um: Each
 Written By : SEE COMMENT BELOW
 Checked & Approved By : 06.02.28
 Comment : Est Rev:E 04.02.16 Reformat K/DS

Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 DC DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Photocopy bluefile and create labels as per PPP D212-664-201CHG002

2.0 D6006129 Crosstube material



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Qty Part number Description Batch

1 D6006-129 Crosstube B23970

Check OD = 3.250"; ID = 2.220"

MS 06/03/09

3.0 MORI SEIKI MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Fill tube with sand & install plugs DT8534 on both ends as per Folio FA114

MS 06/03/10

2-Turn first side as per Folio FA114

MS 06/03/10

3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-241. MS 06/03/10

4.0 QC1 INSPECT ALL DIM TO DIM SHEET



Comment: INSPECT ALL DIM TO DIM SHEET

MS 06/03/10

REFERENCE ONLY

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 212/205 HIGH AFT X-TUBE ASSEMBLY

Job Number: 25993

Part Number: D212664201

Job Number:



Seq. #:	Machine Or Operation:	Description :
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5.0	MORI SEIKI	MORI SEIKI CNC LATHE LARGE
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Comment: MORI SEIKI CNC LATHE LARGE

1-Turn second side as per Folio FA114

MS 06/03/10

2-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-241. MS 06/03/10

6.0	QC1	INSPECT ALL DIM TO DIM SHEET
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Comment: INSPECT ALL DIM TO DIM SHEET

MS 06/03/10

7.0	QC8	SECOND CHECK
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Comment: SECOND CHECK

MS 06/03/10

8.0	MORI SEIKI	MORI SEIKI CNC LATHE LARGE
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Comment: MORI SEIKI CNC LATHE LARGE

1-Polish entire outside surface of crosstube

MS 06/03/10

2-Remove sand and plugs

MS 06/03/10

3-Scribe part # and batch # using vibrating stylus as per Dwg D212-664-241 MS 06/03/10

9.0	HAND FINISHING1	HAND FINISHING RESOURCE #1
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Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1 within 24 hours of machining

MS 06/03/10

10.0	QC5	INSPECT WORK TO CURRENT STEP
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Comment: INSPECT WORK TO CURRENT STEP

DP 06-3-18

①

11.0	BENDING	BENDING MACHINE
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Comment: BENDING MACHINE

Bend tube as per Dwg D212-664-241 using CNC bender program 212-af and Folio FT007

DP 06-3-20 ①



Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 212/205 HIGH AFT X-TUBE ASSEMBLY

Job Number: 25993

Part Number: D212664201

Job Number:



Seq. #:

Machine Or Operation:

Description :

12.0

QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

13.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill pilot holes in tube as per Dwg D212-664-241 using drill Jig DT8550 & DT8551

2-Ream hole to finish size in tube as per Dwg D212-664-241 using drill Jig DT8550 & DT8551. Check dimensions between holes, both sides on both cuffs, to ensure alignment with saddle holes.

3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-241

14.0

HAND FINISHING 1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1 within 24 hours of bending and drilling

15.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

16.0

OUTSIDE SERVICE

OUTSIDE SERVICES



Comment: Sub-Contracting OUTSIDE SERVICES

Liquid Penetrant Inspection as per QSI 038

Issue P/O: 0000921

LPI as per ASTM 1417 Level 2

Attach copy of NDT results to work order

17.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Inspect for transit damage Ensure copy of NDT results attached to work order.

18.0

QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

Inspect for damage & ensure results are as per Dwg D212-664-241

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 212/205 HIGH AFT X-TUBE ASSEMBLY

Job Number: 25993

Part Number: D212664201

Job Number:



Seq. #:

Machine Or Operation:

Description :

19.0

SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

1-Prime inside and outside crosstube as per QSI 005 4.2

2-Paint outside crosstube with White Imron as per QSI 005 4.2

FL 06 06 01 (V)

M 06 06 03 (U)

20.0

QC14

Inspect Spray Paint



Comment: Inspect Spray Paint

Then, Wrap in plastic bag to protect from scratches

06-06-06 (U)

21.0

D2856600

Abrasion Strip



Comment: Qty.: 0.8400 f(s)/Unit Total : 0.8400 f(s)

Pick:

Qty Part number Description Batch

2 D2856-600-1009 Abrasion Strip 824328 RT 06-06-06

22.0

D29401

Support



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D2940-1 Support 825594 RT 06-06-06

23.0

MS2192028

Clamp



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part number Description Batch

4 MS21920-28 Clamp M100Y79 RT 06 06 06

24.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Install abrasion strips as per QSI 035 using DT8582 , RT 06-06-06

2-Install supports and clamps as per Dwg D212-664-241. Torque clamps to 80-100 in lb. RT 06-06-06

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 212/205 HIGH AFT X-TUBE ASSEMBLY

Job Number: 25993

Part Number: D212664201

Job Number:



Seq. #:

Machine Or Operation:

Description :

25.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

20.06.07 (1)

26.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

27.0

D34281

Placard



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick: Packing Kit

Qty Part number

Description Batch

1 D3428-1 PLACARD

B26018

28.0

AN640A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Pick: Packing Kit

Qty Part number

Description Batch

4 AN6-40A

Bolt

M19098

29.0

AN641A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Pick: Packing Kit

Qty Part number

Description Batch

4 AN6-41A

BOLT

M194633

30.0

AN960JD616

Washer



Comment: Qty.: 18.0000 Each(s)/Unit Total: 18.0000 Each(s)

Pick: Packing Kit

Qty Part number

Description Batch

18 46 AN960JD616

Washer

M100191

31.0

MS21042L6

Nut



Comment: Qty.: 6.0000 Each(s)/Unit Total: 6.0000 Each(s)

Pick: Packing Kit

Qty Part number

Description Batch

6 MS21042L6

Nut (or -6)

M19098

2/27/06

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 212/205 HIGH AFT X-TUBE ASSEMBLY

Job Number: 25993

Part Number: D212664201

Job Number:



Seq. #:

Machine Or Operation:

Description :

32.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

CY 06/07/06 (1)

33.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Identify and pack for shipping as per PPP D212-664-201

Rev. B 06/06/06

34.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

06/06/08 (1)

Job Completion



U 06/06/08

DART AEROSPACE LTD	Work Order:	25993
Description: Crosstube Assembly (205/212 High Aft)	Part Number:	D212-664-241
Inspection Dwg: D212-664-241 Rev: <i>AS P PH 05.02.23</i>		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article
 ☐ Prototype

	Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	0.200	+/-0.010	0.200	✓			
	R0.063	+/-0.010	R.063	✓			
	2.990	+0.005/-0.000	2.994	✓			
	5.237 <i>PH 05.02.23</i>	+/-0.001 <i>+0.001</i>	5.250	✓			
	2.600	+0.005/-0.000	2.604	✓			
	2.686	+0.005/-0.000	2.690	✓			
	2.770	+0.005/-0.000	2.774	✓			
	2.854	+0.005/-0.000	2.858	✓			
	2.938	+0.005/-0.000	2.942	✓			
	3.021	+0.005/-0.000	3.025	✓			
	3.133	+0.005/-0.000	3.135	✓			
	3.179	+0.005/-0.000	3.183	✓			
SIDE B	0.200	+/-0.010	0.200	✓			
	R0.063	+/-0.010	R.063	✓			
	2.990	+0.005/-0.000	2.994	✓			
	5.237 <i>PH 05.02.23</i>	+/-0.001 <i>+0.001</i>	5.250	✓			
	2.600	+0.005/-0.000	2.604	✓			
	2.686	+0.005/-0.000	2.691	✓			
	2.770	+0.005/-0.000	2.775	✓			
	2.854	+0.005/-0.000	2.858	✓			
	2.938	+0.005/-0.000	2.942	✓			
	3.021	+0.005/-0.000	3.026	✓			
	3.133	+0.005/-0.000	3.137	✓			
	3.179	+0.005/-0.000	3.183	✓			
	124.36	+/-0.020	124.375	✓			

Measured by:	MS	Audited by:	Er	Prototype Approval:	N/A
Date:	06/03/10	Date:	06/02/10	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	05.04.27	New Issue (P/O D412-664-201)	KJ/JLM	



DESIGN PH	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D212-664-241	REV. B SHEET 1 OF 3
DATE 05.02.04		TITLE CROSSTUBE ASS'Y (205/212 HI AFT)	SCALE NTS
A	00.12.12	NEW ISSUE	
B	05.02.04	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	

RELEASED
05.06.09

Qty	Part Number	Description
X	D212-664-241	CROSSTUBE ASSEMBLY (205/212 HIGH AFT)
1	D6006-129	CROSSTUBE
2	D2940-1	SUPPORT
2	D2856-600-1009	ABRASION STRIP
4	MS21920-28	CLAMP

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) MATERIAL: MANUFACTURED FROM D6006-129
FINISHED LENGTH = 124.36 ± 0.020
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 4) PART IS SYMMETRIC ABOUT CENTERLINE
- 5) RUN-OFF PART. BLEND OUT EDGE LONGITUDINALLY. TRANSITION SHOULD BE SMOOTH.
- 6) BEND PROGRESSIVELY WITH A MINIMUM OF 5 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 7) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 8) SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS.
- 9) INSTALL D2856-600-1009 ABRASION STRIP WITH A 0.13 (REF) GAP ON BOTTOM SIDE OF CROSSTUBE, CENTERED OPPOSITE D2940-1 SUPPORT, PER QSI 035.
- 10) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 11) IT IS OPTIONAL TO SEAL EDGES OF SUPPORTS AND ABRASION STRIP USING SIKAFLEX-241/291 SEALANT.
- 12) TORQUE CLAMPS 80 TO 100 IN-LB.

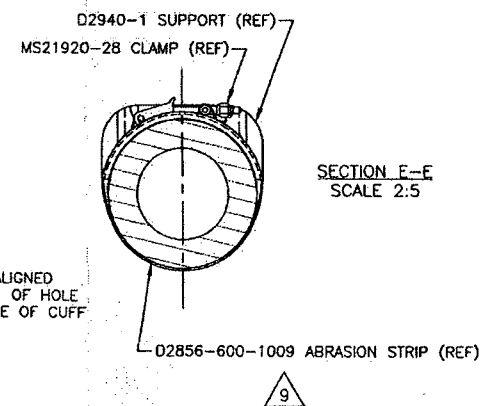
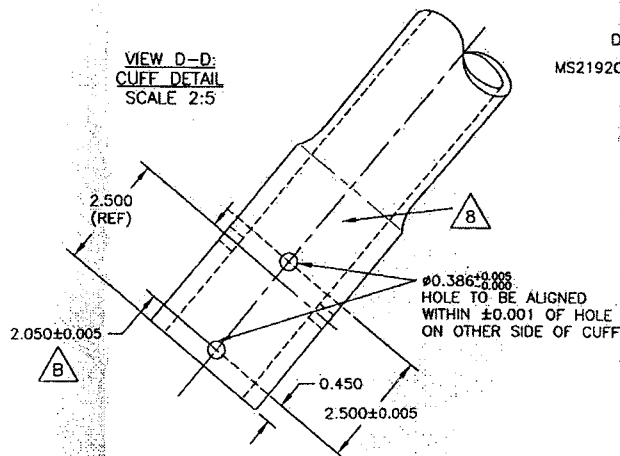
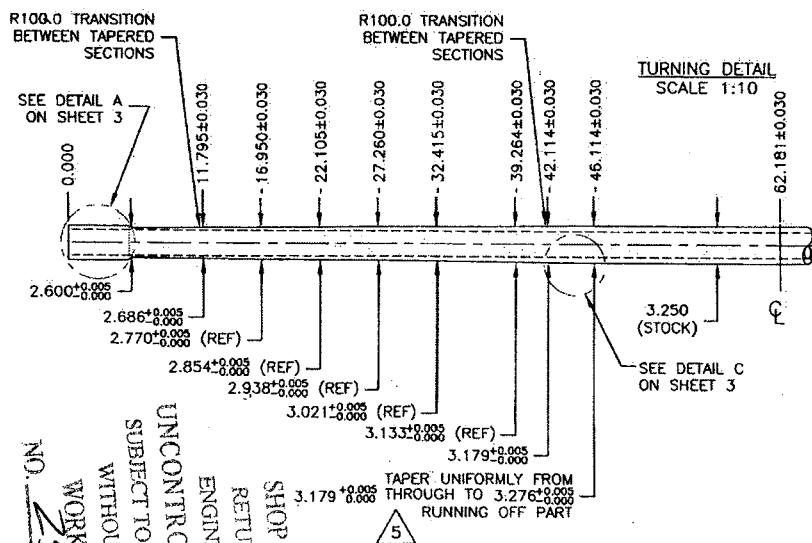
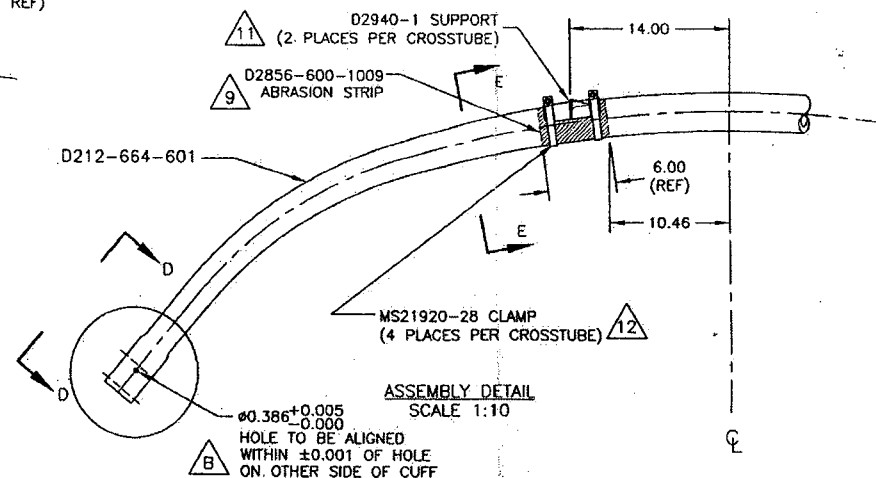
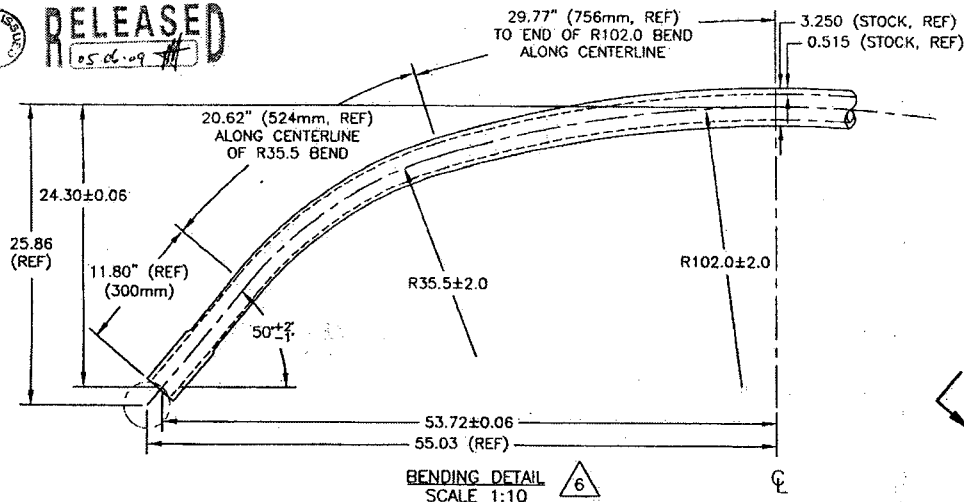
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NO. 25993

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05.02.04

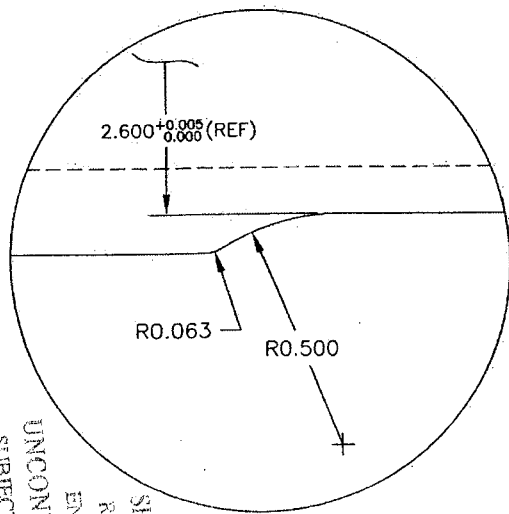
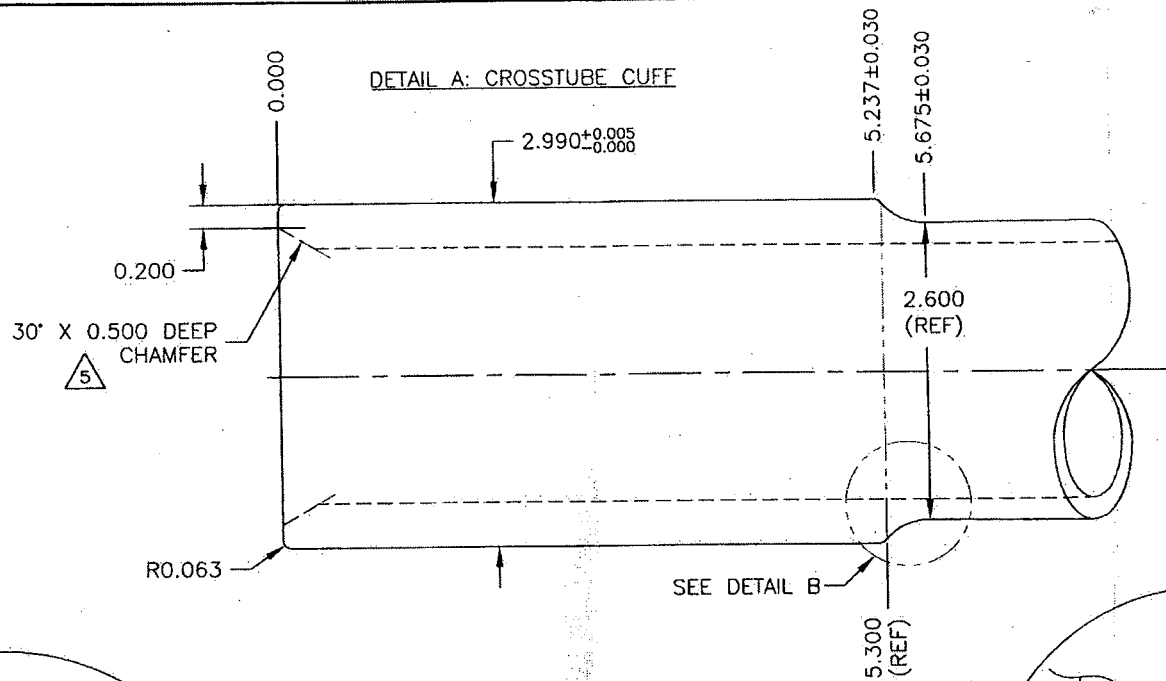


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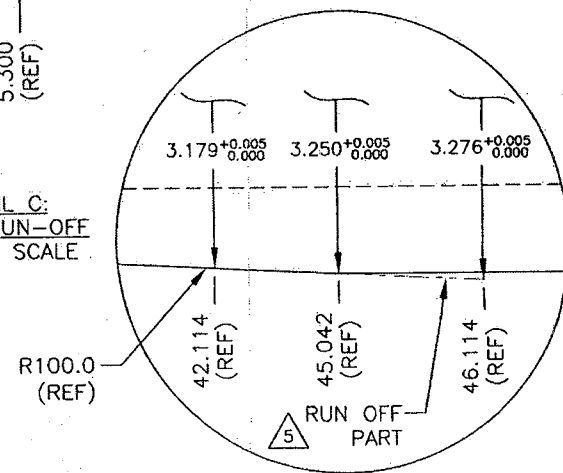
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DESIGN	PH	DRAWN BY	PH	DART	DART AEROSPACE LTD.
CHECKED	PH	APPROVED	PH	HAWKESBURY, ONTARIO, CANADA	
DATE	05.02.04	DRAWING NO.	D212-664-241	REV. B	SHEET 2 OF 3
TITLE	CROSSTUBE ASS'Y (205/212 HI AFT)	SCALE	1:10		

RELEASED
05-06-09



DETAIL C:
TAPER RUN-OFF
NOT TO SCALE



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DATE 05.02.04		CHECKED #	APPROVED #	TITLE CROSSTUBE ASS'Y (205/212 HI AFT) SCALE 1:1	

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: ☒ Date: 06/06/08
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 2/27/2006 4:21:33 PM
 User: Kim Johnston

Process Sheet

Customer :	CU-DAR001 Dart Helicopters Services	Drawing Name :	212/205 HIGH AFT X-TUBE ASSEMBLY
Job Number :	25993		
Estimate Number :	10257		
P.O. Number :		Part Number :	D212664201
This Issue :	2/27/2006	Drawing Number :	D212-664-241 REV B
Prsht Rev. :	NC	Project Number :	N/A
First Issue :	/ /	Drawing Revision :	B
Previous Run :	25992	Material :	
	Type :	Due Date :	3/25/2006
	LANDING GEAR	Qty:	1
Written By :		Um:	Each
Checked & Approved By :	06.02.28		
Comment :	Est Rev:E 04.02.16 Reformat K/DS		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	DC	DOCUMENT CONTROL
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**Comment:** DOCUMENT CONTROL

Photocopy bluefile and create labels as per PPP D212-664-201CHG002

2.0	D6006129	Crosstube material
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**Comment:** Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Qty Part number Description Batch

1 D6006-129 Crosstube B23970

Check OD = 3.250"; ID = 2.220"

u 0603/2

M8 06/03/09

3.0	MORI SEIKI	MORI SEIKI CNC LATHE LARGE
-----	------------	----------------------------

**Comment:** MORI SEIKI CNC LATHE LARGE

1-Fill tube with sand & install plugs DT8534 on both ends as per Folio FA114

M8 06/03/10

2-Turn first side as per Folio FA114

M8 06/03/10

3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-241. M8 06/03/10

4.0	QC1	INSPECT ALL DIM TO DIM SHEET
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**Comment:** INSPECT ALL DIM TO DIM SHEET

M8 06/03/10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 2/27/2006 4:21:33 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 212/205 HIGH AFT X-TUBE ASSEMBLY

Job Number: 25993

Part Number: D212664201

Job Number:



Seq. #:	Machine Or Operation:	Description :
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5.0	MORI SEIKI	MORI SEIKI CNC LATHE LARGE
-----	------------	----------------------------



Comment: MORI SEIKI CNC LATHE LARGE

1-Turn second side as per Folio FA114

MS 06/03/10

2-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-241. MS 06/03/10

6.0	QC1	INSPECT ALL DIM TO DIM SHEET
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Comment: INSPECT ALL DIM TO DIM SHEET

MS 06/03/10

7.0	QC8	SECOND CHECK
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Comment: SECOND CHECK

8.0	MORI SEIKI	MORI SEIKI CNC LATHE LARGE
-----	------------	----------------------------



Comment: MORI SEIKI CNC LATHE LARGE

1-Polish entire outside surface of crosstube

2-Remove sand and plugs

3-Scribe part # and batch # using vibrating stylus as per Dwg D212-664-241

9.0	HAND FINISHING1	HAND FINISHING RESOURCE #1
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Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1 within 24 hours of machining

10.0	QC5	INSPECT WORK TO CURRENT STEP
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Comment: INSPECT WORK TO CURRENT STEP

11.0	BENDING	BENDING MACHINE
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Comment: BENDING MACHINE

Bend tube as per Dwg D212-664-241 using CNC bender program 212-af and Folio FT007

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 2/27/2006 4:21:33 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 212/205 HIGH AFT X-TUBE ASSEMBLY

Job Number: 25993

Part Number: D212664201

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

12.0

QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

13.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill pilot holes in tube as per Dwg D212-664-241 using drill Jig DT8550 & DT8551

2-Ream hole to finish size in tube as per Dwg D212-664-241 using drill Jig DT8550 & DT8551. Check dimensions between holes, both sides on both cuffs, to ensure alignment with saddle holes.

3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-241

14.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1 within 24 hours of bending and drilling

15.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

16.0

OUTSIDE SERVICE

OUTSIDE SERVICES



Comment: Sub-Contracting OUTSIDE SERVICES

Liquid Penetrant Inspection as per QSI 038

Issue P/O: _____

LPI as per ASTM 1417 Level 2

Attach copy of NDT results to work order

17.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Inspect for transit damage Ensure copy of NDT results attached to work order.

18.0

QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

Inspect for damage & ensure results are as per Dwg D212-664-241

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 2/27/2006 4:21:33 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 212/205 HIGH AFT X-TUBE ASSEMBLY

Job Number: 25993

Part Number: D212664201

Job Number:



Seq. #:

Machine Or Operation:

Description :

19.0

SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

1-Prime inside and outside crosstube as per QSI 005 4.2

2-Paint outside crosstube with White Imron as per QSI 005 4.2

20.0

QC14

Inspect Spray Paint



Comment: Inspect Spray Paint

Then, Wrap in plastic bag to protect from scratches

21.0

D2856600

Abrasion Strip



Comment: Qty.: 0.8400 f(s)/Unit Total : 0.8400 f(s)

Pick:

Qty Part number Description Batch

2 D2856-600-1009 Abrasion Strip _____

22.0

D29401

Support



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D2940-1 Support _____

23.0

MS2192028

Clamp



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part number Description Batch

4 MS21920-28 Clamp _____

24.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Install abrasion strips as per QSI 035 using DT8582

2-Install supports and clamps as per Dwg D212-664-241. Torque clamps to 80-100 in lb.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 2/27/2006 4:21:34 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 212/205 HIGH AFT X-TUBE ASSEMBLY

Job Number: 25993

Part Number: D212664201

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

25.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

26.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

27.0

D34281

Placard



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick: Packing Kit

Qty Part number Description Batch

1 D3428-1 PLACARD

28.0

AN640A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick: Packing Kit

Qty Part number Description Batch

4 AN6-40A

Bolt

29.0

AN641A

Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick: Packing Kit

Qty Part number Description Batch

4 AN6-41A

BOLT

30.0

AN960JD616

Washer



Comment: Qty.: 18.0000 Each(s)/Unit Total : 18.0000 Each(s)

Pick: Packing Kit

Qty Part number Description Batch

16 AN960JD616

Washer

31.0

MS21042L6

Nut



Comment: Qty.: 6.0000 Each(s)/Unit Total : 6.0000 Each(s)

Pick: Packing Kit

Qty Part number Description Batch

6 MS21042L6

Nut (or -6)

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 2/27/2006 4:21:34 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 212/205 HIGH AFT X-TUBE ASSEMBLY

Job Number: 25993

Part Number: D212664201

Job Number:



Seq. #:

Machine Or Operation:

Description :

32.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

33.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Identify and pack for shipping as per PPP D212-664-201

34.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

Job Completion



Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	25993
Description: Crosstube Assembly (205/212 High Aft)	Part Number:	D212-664-241
Inspection Dwg: D212-664-241 Rev: A3 PH 05.02.23		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Inspection Sheet Drawing Dimension		Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	0.200	+/-0.010	.200	✓			
	R0.063	+/-0.010	R.063	✓			
	2.990	+0.005/-0.000	2.994	✓			
	5.237 PH 05.02.23	+0.004/-0.000	5.250	✓			
	2.600	+0.005/-0.000	2.604	✓			
	2.686	+0.005/-0.000	2.6				
	2.770	+0.005/-0.000					
	2.854	+0.005/-0.000					
	2.938	+0.005/-0.000					
	3.021	+0.005/-0.000					
	3.133	+0.005/-0.000					
	3.179	+0.005/-0.000					
SIDE B	0.200	+/-0.010	.200	✓			
	R0.063	+/-0.010	R.063	✓			
	2.990	+0.005/-0.000	2.994	✓			
	5.237 PH 05.02.23	+0.004/-0.000	5.250	✓			
	2.600	+0.005/-0.000	2.604	✓			
	2.686	+0.005/-0.000					
	2.770	+0.005/-0.000					
	2.854	+0.005/-0.000					
	2.938	+0.005/-0.000					
	3.021	+0.005/-0.000					
	3.133	+0.005/-0.000					
	3.179	+0.005/-0.000					
	124.36	+/-0.020					

Measured by:	MB	Audited by:		Prototype Approval:	N/A
Date:	06/03/10	Date:		Date:	N/A

Rev	Date	Change	Revised by	Approved
A	05.04.27	New Issue (P/O D412-664-201)	KJ/JLM	



DESIGN PH	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D212-664-241	REV. B SHEET 1 OF 3
DATE 05.02.04		TITLE CROSSTUBE ASS'Y (205/212 HI AFT) NTS	
A	00.12.12	NEW ISSUE	
B	05.02.04	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	

RELEASED
05.02.04 [Signature]

Qty	Part Number	Description
X	D212-664-241	CROSSTUBE ASSEMBLY (205/212 HIGH AFT)
1	D6006-129	CROSSTUBE
2	D2940-1	SUPPORT
2	D2856-600-1009	ABRASION STRIP
4	MS21920-28	CLAMP

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) MATERIAL: MANUFACTURED FROM D6006-129
FINISHED LENGTH = 124.36 ± 0.020
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 4) PART IS SYMMETRIC ABOUT CENTERLINE
- 5) RUN-OFF PART. BLEND OUT EDGE LONGITUDINALY, TRANSITION SHOULD BE SMOOTH.
- 6) BEND PROGRESSIVELY WITH A MINIMUM OF 5 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 7) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 8) SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS.
- 9) INSTALL D2856-600-1009 ABRASION STRIP WITH A 0.13 (REF) GAP ON BOTTOM SIDE OF CROSSTUBE, CENTERED OPPOSITE D2940-1 SUPPORT, PER QSI 035.
- 10) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 11) IT IS OPTIONAL TO SEAL EDGES OF SUPPORTS AND ABRASION STRIP USING SIKAFLEX-241/291 SEALANT.
- 12) TORQUE CLAMPS 80 TO 100 IN-LB.

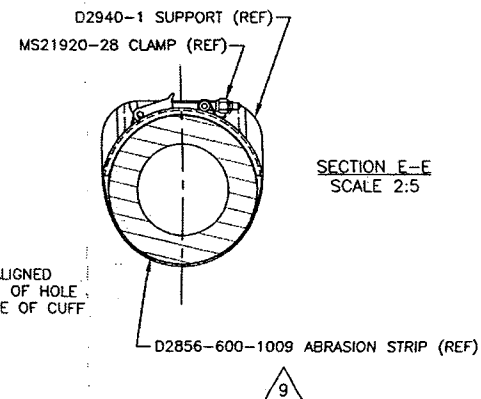
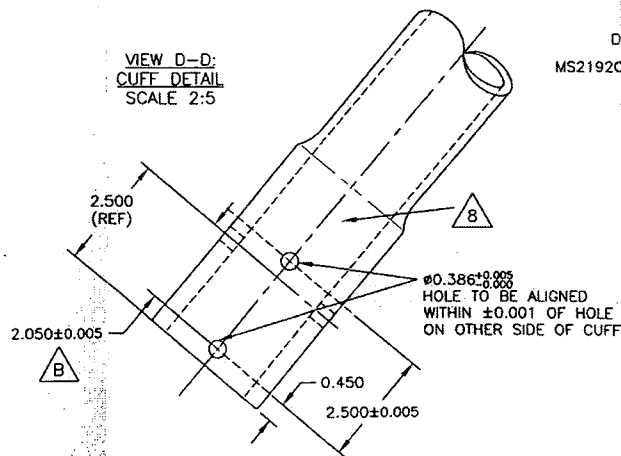
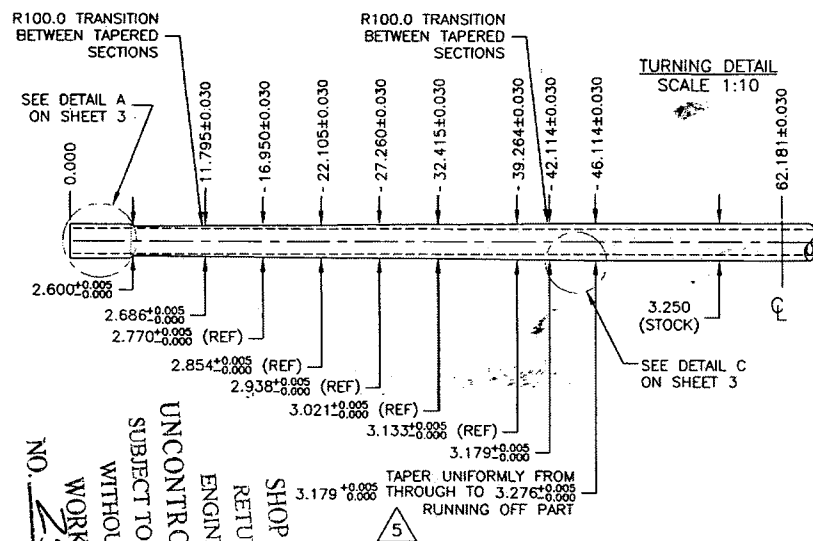
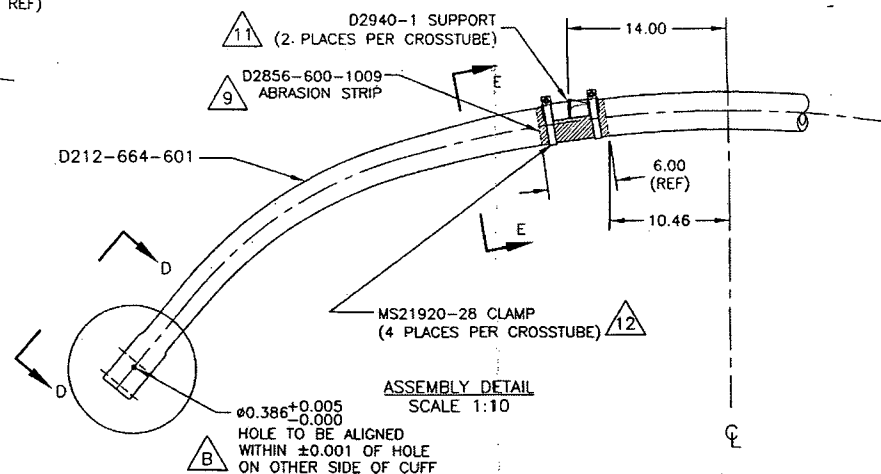
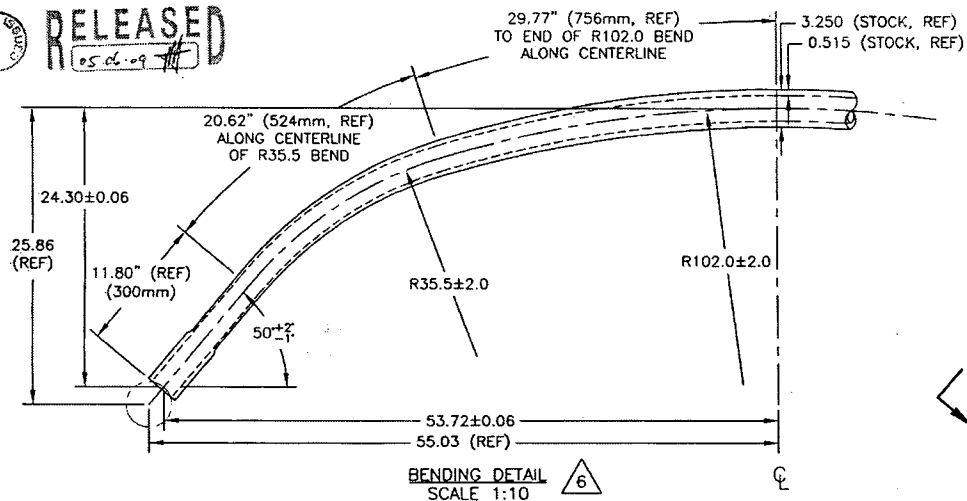
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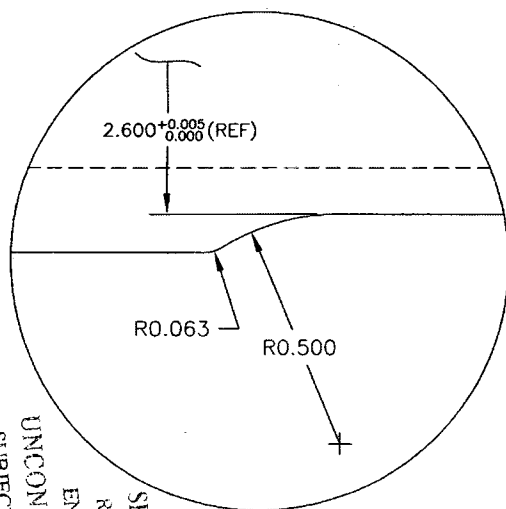
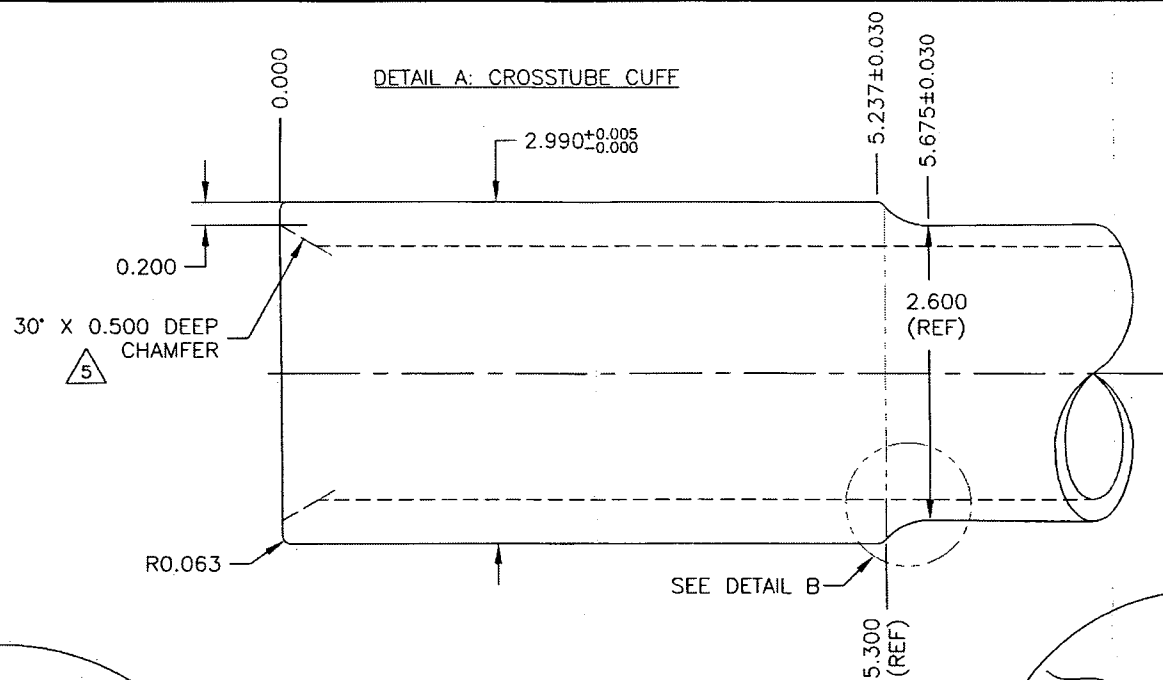
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05.02.04



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		DATE	05.02.04			D212-664-241	SHEET 2 OF 3
						TITLE	SCALE
						CROSSTUBE ASS'Y (205/212 HI AFT)	1:10

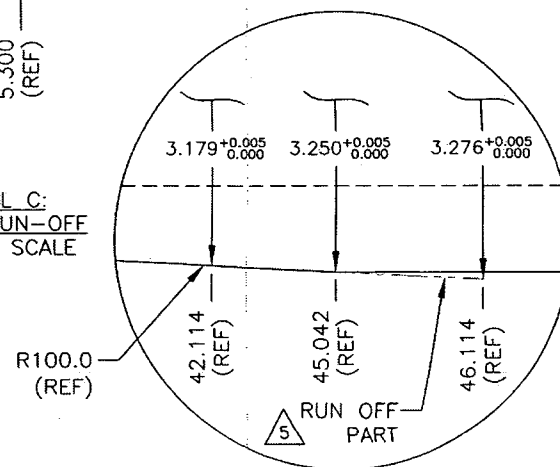
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DETAIL B: CUFF
TRANSITION
SCALE 4:1

DETAIL C:
TAPER RUN-OFF
NOT TO SCALE

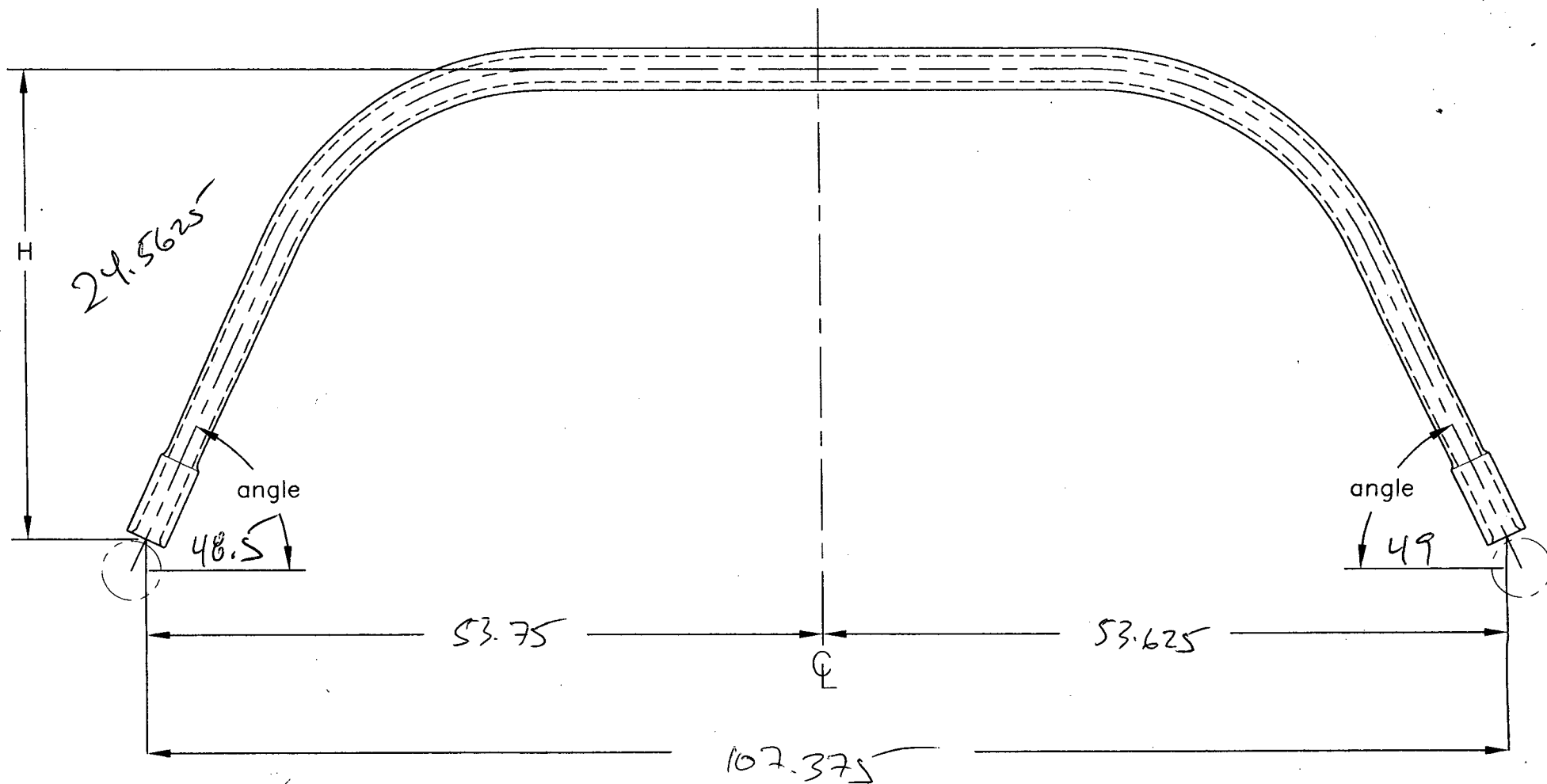


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DESIGN FH	DRAWN BY FH	DART	DART AEROSPACE LTD. WARRICKSLEY, ONTARIO, CANADA
CHECKED #	APPROVED #	DRAWING NO. D212-664-241	REV. B SHEET 3 OF 3
DATE 05.02.04	TITLE CROSSTUBE ASS'Y (205/212 HI AFT)	SCALE 1:1	

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DATE: 06-03-23

DESCRIPTION: 212-664-201

BATCH NO: 25993

DRAWING: 212-664-241

H: 24.30 } $\pm .060$

1/2 SPAN: 53.72

TOTAL SPAN: 107.44

ANGLE: 50°

Handwritten signature
06-03-23

**HeathAir**

INTERNATIONAL (1991) INC.

681 Ave. Lapine, Dorval, Québec H9P 1G3
Tél.: (514) 636-1000 • Fax: (514) 636-0031

W.O. N° 33877

A.M.O. Number: 46/90

NON-DESTRUCTIVE TESTING REPORT**AIRCRAFT / COMPONENT INFORMATION**

REGISTRATION:

MODEL/TYPE:

SERIAL NUMBER:

TOTAL HR/LDG:

OPERATED BY:

BASED AT:

INSPECTION REQUIREMENTS

Carry out FPI of (3) cross tubes (external surface) as per ASTM E-1417-05 and the Dart QSI 038, Section 4.1.1 (on file at client) - parts delivered to HeathAir.

Qty (3) P/N D212-664-201 S/N's B25993, B25991 and B25995.

☐ RADIOGRAPHY☐ ULTRASONIC☒ PENETRANT☐ MAGNETIC PARTICLE☐ EDDY CURRENT**INSPECTION REPORT**

Fluorescent penetrant inspection was performed in accordance with the above requirements on (3) Cross Tubes.

Note: A Level 3 penetrant was substituted for the requested Level 2 (3 is more sensitive)
Ardrox 970P25E Batch #04B503.

(3) cross tubes inspected. (3) PASSED inspection / (0) FAILED inspection.

THE MAINTENANCE DESCRIBED ABOVE HAS BEEN PERFORMED IN ACCORDANCE WITH
THE APPLICABLE STANDARDS OF CURRENCY

INSPECTED BY:

DATE April 4, 2006

INSPECTION
STAMP(S) **CUSTOMER INFORMATION**

CUSTOMER: Dart Aerospace

P.O. NUMBER PO00000920

ADDRESS:

CONTACT NAME: Linda

LABOUR

@

\$

MATERIALS

@

TRAVEL EXPENSES

@

GST

HOTEL EXPENSES

@

PST

INVOICE NO.

TOTAL \$

WHITE COPY - INSPECTION FILE • YELLOW COPY - CUSTOMER • PINK COPY - ACCOUNTANT